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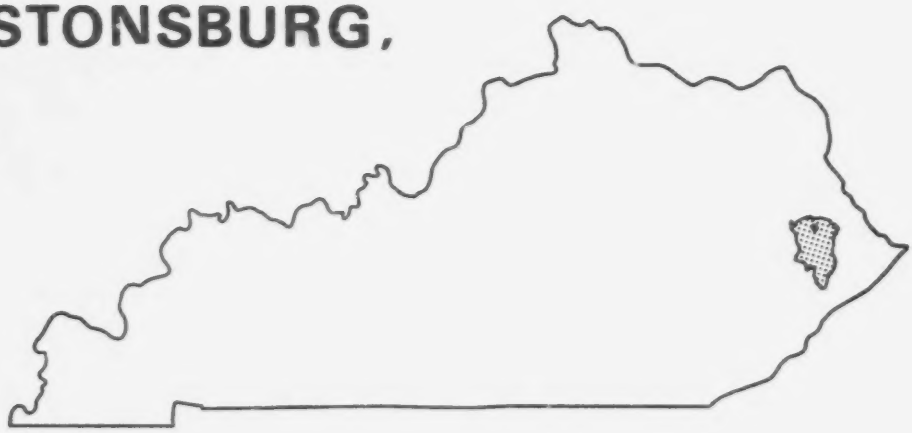
SYA-C-17 FEMA-SCO-210072

FLOOD INSURANCE STUDY

CITY OF PRESTONSBURG, KENTUCKY
FLOYD COUNTY



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REVISED

APRIL 2, 1990

Federal Emergency Management Agency

COMMUNITY NUMBER - 210072

NOTICE TO
FLOOD INSURANCE STUDY USERS

Communities participating in the National Flood Insurance Program have established repositories of flood hazard data for floodplain management and flood insurance purposes. This Flood Insurance Study may not contain all data available within the repository. It is advisable to contact the community repository for any additional data.

This publication incorporates revisions to the original Flood Insurance Study. These revisions are presented in Section 9.0.

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FLOOD INSURANCE STUDY
CITY OF PRESTONSBURG, KENTUCKY

1.0 INTRODUCTION

1.1 Purpose of Study

This Flood Insurance Study investigates the existence and severity of flood hazards in the City of Prestonsburg, Floyd County, Kentucky and aids in the administration of the National Flood Insurance Act of 1968 and the Flood Disaster Protection Act of 1973. This study will be used to convert the City of Prestonsburg to the regular program of flood insurance by the Federal Insurance Administration (FIA). Local and regional planners will use this study in their efforts to promote sound flood plain management.

In some states or communities, flood plain management criteria or regulations may exist that are more restrictive or comprehensive than those on which these Federally-supported studies are based. These criteria take precedence over the minimum Federal criteria for purposes of regulating development in the flood plain, as set forth in the Code of Federal Regulations at 24 CFR, 1910.1 (d). In such cases, however, it shall be understood that the state (or other jurisdictional agency) shall be able to explain these requirements and criteria.

1.2 Authority and Acknowledgments

The source of authority for this Flood Insurance Study is the National Flood Insurance Act of 1968 and the Flood Disaster Protection Act of 1973.

The hydrologic and hydraulic analyses for this study were performed by the Huntington District, Corps of Engineers (COE), Huntington, West Virginia for the Federal Insurance Administration, under Interagency Agreement No. IAA-H-7-76, Project Order No. 16. This study was completed in March 1978.

Detailed mapping used for the Base Map was furnished by the City of Prestonsburg (Reference 1).

1.3 Coordination

Coordination of this study included notification of the mayor of Prestonsburg and the State Flood Insurance Coordinator in a letter, dated March 22, 1976, of the initiation of the study. In addition to these letters, an announcement of initiation of the study and a call for flooding information was published in a Public Notice in the Floyd County Times, Prestonsburg, Kentucky, beginning April 15, 1976.

Coordination meetings were held at the call of the Consultation Coordination Officer for Prestonsburg and were attended by Huntington District personnel. The Initial Coordination Meeting was held on November 25, 1975. This report was presented to local officials and interested citizens at the Final Consultation and Coordination Meeting held on July 19, 1979, with results of the study being acceptable to the community.

The study produced no results that conflicted with available data or criteria and, therefore, no reconciliation was necessary.

2.0 AREA STUDIED

2.1 Scope of Study

This Flood Insurance covers the incorporated area of the City of Prestonsburg. The area of study is shown on the Vicinity Map (Figure 1).

The study for the City of Prestonsburg did not identify any flood prone areas other than those affected by Levisa Fork and Middle Creek; therefore, delineation of flood prone areas by the "approximate method" was unnecessary.

Flooding caused by overflow of Levisa Fork and Middle Creek was studied by the "detailed method."

The areas studied by detailed methods were selected with priority given to all known flood hazard areas, and areas of projected development or proposed construction for the next five years, through March 1983.

The limits of the areas studied were chosen by the Community Coordinating Officer (CCO) and community representatives at the Initial Coordination Meeting in November 1975.

2.2 Community Description

The City of Prestonsburg is the county seat of Floyd County and is located in eastern Kentucky, 192 miles southeast of Louisville, Kentucky, 198 miles southeast of Cincinnati, Ohio, and 223 miles northeast of Knoxville, Tennessee. Levisa Fork flows northwesterly through town. Middle Creek is confluent with Levisa Fork at the center of town and flows northeasterly through Prestonsburg.

In 1978 the population of Prestonsburg was approximately 5,000 which is a 70 percent increase over the population of 1970. This can partly be attributed to the additional areas annexed in May 1976. The economy is increasing due to the coal industry and manufacturing plants. Prestonsburg had an average of 20 new businesses per year over the past 5 years.

FIGURE 1

FEDERAL EMERGENCY MANAGEMENT AGENCY

CITY OF PRESTONSBURG, KY

(FLOYD CO.)

APPROXIMATE SCALE

8 0 8 16 24 MILES

VICINITY MAP

Prestonsburg has an annual mean temperature of 56.1 degrees F. The mean annual total precipitation is 41.47 inches and the mean annual snowfall 15.90 inches.

The Prestonsburg labor market area includes Floyd County and the five surrounding counties. Area employment in 1973 averaged 37,550 with agriculture providing 360 jobs, manufacturing 2,030, trade and services 9,110, government 7,620, and mining 10,590. Manufacturing in the labor market area has increased by more than 146 percent since 1964 providing 1,141 new jobs (Reference 2).

Terrain in Prestonsburg is mainly flat in the developed areas along Levisa Fork and Middle Creek with hilly areas being located near the corporate boundaries. A large portion of commercial and residential development lies within the Levisa Fork and Middle Creek flood plains. Important railway and highway routes provide access to Prestonsburg.

2.3 Principal Flood Problems

A USGS gage (No. 2098) is located on Levisa Fork on the right bank 50 feet downstream from a concrete highway bridge on State Route 114 at Prestonsburg, 150 feet downstream from the mouth of Trimble Branch and 450 feet upstream from Middle Creek at Levisa Fork mile 55.02. The period of record is from October 1963 to present. Datum of gage is 588.12 feet above National Geodetic Vertical Datum of 1929 (NGVD). Prior to July 20, 1968, the gage was nonrecording and a crest-stage gage ata site 150 feet upstream at present datum.

The highest flood occurring in Prestonsburg, for which there are records, occurred in February 1862 when Levisa Fork crested at a stage of 49.4 feet as shown on profiles by the COE. On January 30, 1957, records at the Prestonsburg gaging station show the Levisa Fork reached a stage of 48.78 feet as indicated by high water marks. In recent years, records published by USGS show that on April 6, 1977, a crest of 45.71 feet was reached.

2.4 Flood Protection Measures

There are three upstream flood control reservoirs on Levisa Fork which reduce flood levels in the community. These projects were constructed by the COE. Fishtrap Lake has been regulated since October 1968 and is located on Levisa Fork in Pike County, Kentucky, 103.3 miles above its mouth. John W. Flannagan Dam and Reservoir has been regulated since March 1965 and is located on Pound River, a tributary of Russell Fork of Levisa Fork in Dickenson County, Virginia, 123.2 miles above the mouth of Levisa Fork. North Fork of Pound Lake has been regulated since August 1966 and is located on the North Fork of Pound River, a tributary of Russell Fork of Levisa Fork in Wise County, Virginia, 157.2 miles above the mouth of Levisa Fork.

The Prestonsburg Local Protection Project was constructed by the COE and completed on December 14, 1959. The project is located on the right descending bank of Levisa Fork at river mile 55.03 and Trimble Branch. It affords protection to approximately 62 acres, including most of the business section and part of the residential area. The project consists of an earth levee and a pump station which provides protection from backwater floods occurring on Trimble Branch when flood stages are reached on Levisa Fork. The level of protection is about three feet below the maximum flood or record, that of February 1862. This level of protection exceeds the 100-year flood. The pump station provides for disposal of interior runoff, seepage and sewage from the protected area during periods of high water on Levisa Fork.

Storage is presently available within the protected area to maintain ponding levels below an elevation of 619.0 feet (NGVD). In order to maintain the design level of protection, two additional pumps have been recently added to the pump station to compensate for encroachment in the ponding area.

3.0 ENGINEERING METHODS

For the flooding sources studied in detail in the community, standard hydrologic and hydraulic study methods were used to determine the flood hazard data required for this study. Flood events of a magnitude which are expected to be equalled or exceeded once on the average during any 10-, 50-, 100-, and 500-year period (recurrence intervals), have been selected as having special significance for flood plain management and for flood insurance premium rates. These events, commonly termed the 10-, 50-, 100-, and 500-year floods, have a 10, 2, 1, and 0.2 percent chance, respectively, of being equalled or exceeded during any year. Although the recurrence interval represents the long term, average period between floods of a specific magnitude, rare floods could occur at short intervals or even within the same year. The risk of experiencing a rare flood increases when periods greater than one year are considered. For example, the risk of having a flood which equals or exceeds the 100-year flood (one percent chance of annual occurrence) in any 50 year period is about 40 percent (four in 10), and for any 90 year period, the risk increases to about 60 percent (six in 10). The analyses reported here reflect flooding potentials based on conditions existing in the community at the time of completion of this study. Maps and flood elevations will be amended periodically to reflect future changes.

3.1 Hydrologic Analyses

Hydrologic analyses were carried out to establish the peak discharge-frequency relationships for floods of the selected recurrence intervals for Levisa Fork and Middle Creek in the City of Prestonsburg, Kentucky.

Natural discharge-frequency curves used in this study were developed previously on a regional basis in accordance with the method outlined in "Statistical Methods in Hydrology," by Leo R. Beard, dated January 1962 (Reference 3), and the Water Resources Council Bulletin No. 17, dated March 1976 (Reference 4). Twenty USGS stream gaging stations in Levisa Fork, Big Sandy River and surrounding basins displaying similar hydrologic characteristics were used in the analysis (References 5 and 6).

Periods-of-record for these stations ranged from 16 to 57 years and represented drainage areas from 31 to 3,892 square miles. An "n" value of 45 years was adopted as being representative of the periods of record for the gaging stations utilized in the analysis and was used in computing the estimated frequency for each evaluation center.

The peak discharge-drainage area relationships for the selected recurrence intervals are presented in Table 1, "Summary of Discharges."

TABLE 1 - SUMMARY OF DISCHARGES

FLOODING SOURCE AND LOCATION	DRAINAGE AREA (sq. miles)	PEAK DISCHARGES (cfs) 10-YEAR	50-YEAR	100-YEAR	500-YEAR
LEVISA FORK					
Upstream at Corporate Limits	1620.4	34,400	49,600	58,000	83,000
At USGS Gaging Station	1701.0	34,400	49,600	58,000	83,000
Downstream at Corporate Limits	1721.5	34,400	49,600	58,000	83,000
MIDDLE CREEK					
At Corporate Limits	64	7,500	9,900	12,000	17,500
At Mouth	65	7,500	9,900	12,000	17,500

3.2 Hydraulic Analyses

Analyses of the hydraulic characteristics of the flooding soruces studied in detail in the community were carried out to provide estimates of the elevations of floods of the selected recurrence intervals along each of the flood sources.

Water-surface elevations of the selected floods, the floodway data and the flood insurance zone data were computed through use of the computer program HEC-2, "Water-Surface Profiles" (Reference 7). Cross sections for the computer analyses were obtained by aerial photogrammetric methods from aerial photographs taken April 15, 1976. Cross sections and bridge opening geometries were obtained at thirteen bridges by field measurements in October 1976.

Locations of selected cross sections used in the hydraulic analyses are shown on the Flood Profiles (Exhibit 1).

For stream segments for which a floodway was computed (Section 4.2), selected cross section locations are also shown on the Flood Boundary and Floodway Map (Exhibit 3).

Channel roughness coefficients (Manning's "n") for water-surface computations were determined on the basis of characteristics of historical floods in this reach and existing flood plain conditions. The selected "n" value in the channel was 0.045 and ranged from 0.055 to 0.070 for the overbanks.

Flood profiles were drawn showing computed water-surface elevations to an accuracy of 0.5 foot for floods of the selected recurrence intervals (Exhibit 1). Starting elevations for Levisa Fork were obtained by using established ratings at the Prestonsburg gaging station. Suitable starting elevations for backwater computations of the various frequency interval floods on Middle Creek were selected using the corresponding coincident flood crests on Levisa Fork. All elevations are measured from the National Geodetic Vertical Datum of 1929 (NGVD).

4.0 FLOOD PLAIN MANAGEMENT APPLICATIONS

The National Flood Insurance Program encourages state and local governments to adopt sound flood plain management programs. Therefore, each Flood Insurance Study includes a flood boundary map designed to assist communities in developing sound flood plain management measures.

4.1 In order to provide a national standard without regional discrimination, the 100-year flood has been adopted by the (FIA) as the base flood for the purposes of flood plain management measures. The500-year flood is used as the basis for the critical action flood plain (Reference 8). A critical action is any activity for which even a slight chance of flooding would be too great.

Along Levisa Fork and Middle Creek, the lateral limits of the 100-year and the 500-year floods were delineated using the flood elevations determined at each cross section; between cross sections, the boundaries were interpolated using topographic maps at a scale of 1"=200' with a countour interval of 40 feet (Reference 9). In cases where the 100- and the 500-year flood boundaries are close together, only the 100-year boundary has been shown. These outlines are shown on the Flood Boundary and Floodway Map (Exhibit 3).

Small areas within the flood boundaries may lie above the flood elevations, and therefore, may not be subject to flooding. Owing to limitations of the map scale and/or lack of detailed topographic data, such areas are not shown.

4.2 Floodways

Encroachment on flood plains, such as artificial fill, reduces the flood-carrying capacity, increases the flood heights of streams, and increases flood hazards in areas beyond the encroachment itself. One aspect of flood plain management involves balancing the economic gain from flood plain development against the resulting increase in flood hazard. For purposes of the National Flood Insurance Program, the concept of a floodway is used as a tool to assist local communities in this aspect of flood plain management. Under this concept, the area of the 100-year flood is divided into a floodway and a floodway fringe. The floodway is the channel of a stream plus any adjacent flood plain areas that must be kept free of encroachment in order that the 100-year flood may be carried without substantial increases in flood heights. Minimum standards of the FIA limit such increases in flood heights to 1.0 foot, provided that hazardous velocities are not produced. The floodways in this report are presented to local agencies as minimum standards that can be adopted or that can be used as a basis for additional studies.

State or local ordinances on floodways are not more restrictive than this FIA criteria.

The floodway proposed in this study was computed on the basis of equal conveyance reduction from each side of the flood plain. The results of these computations are tabulated at selected cross sections of Levisa Fork and Middle Creek (Table 2).

As shown on the Flood Boundary and Floodway Map, the floodway widths were determined at cross sections; between cross sections, the boundaries were interpolated. In cases where the boundaries of the floodway and the 100-year flood are either close together or collinear, only the floodway boundary has been shown. A portion of the floodway of the Levisa Fork is outside of the corporate limits.

The area between the floodway and the boundary of the 100-year flood is termed the floodway fringe. The floodway fringe thus encompasses the portion of the flood plain that could be completely obstructed without increasing the water-surface elevation of the 100-year flood more than one foot at any point. Typical relationships between the floodway and the floodway fringe and their significance to flood plain development are shown in Figure 2.

FLOODING SOURCE		FLOODWAY			BASE FLOOD WATER SURFACE ELEVATION			
CROSS SECTION	DISTANCE[1]	WIDTH (FEET)	SECTION AREA (SQ. FEET)	MEAN VELOCITY (FEET/SEC.)	REGULATORY (FEET NGVD)	WITHOUT FLOODWAY (FEET NGVD)	WITH FLOODWAY (FEET NGVD)	INCREASE (FEET)
LEVISA FORK								
A	52.810	324[2]	11,808	5.6	632.7	632.7	633.6	0.9
B	53.210	454	13,343	5.0	633.3	633.3	634.1	0.8
C	53.386	405[2]	15,057	4.4	634.1	634.1	635.0	0.9
D	53.871	300[2]	12,566	5.3	634.5	634.5	635.4	0.9
E	54.264	408[2]	14,327	4.6	635.0	635.0	635.9	0.9
F	54.490	483	17,826	3.9	635.7	635.7	636.6	0.9
G	54.622	445	13,795	5.0	635.8	635.8	636.7	0.9
H	54.817	313[2]	12,582	5.5	635.9	635.9	636.9	1.0
I	55.178	329[2]	12,678	5.4	636.7	636.7	637.7	1.0
J	55.411	253[2]	10,903	6.3	637.0	637.0	638.0	1.0
K	55.930	287[2]	11,877	5.8	638.1	638.1	639.1	1.0
L	56.315	280[2]	11,772	5.9	638.8	638.8	639.8	1.0
M	56.500	314[2]	12,452	5.5	639.2	639.2	640.2	1.0
N	56.905	431[2]	12,641	5.5	639.9	639.9	640.9	1.0
O	57.552	256[2]	10,929	6.3	641.1	641.1	642.1	1.0
P	58.014	581[2]	17,770	3.9	642.7	642.7	643.6	0.9
Q	58.351	275[2]	11,574	6.0	642.8	642.8	643.7	0.9
R	58.705	323[2]	13,181	5.2	643.5	643.5	644.4	0.9
S	58.987	335[2]	13,443	5.1	644.1	644.1	645.0	0.9
T	59.638	753[2]	17,792	3.9	645.2	645.2	646.1	0.9

[1]MILES ABOVE MOUTH
[2]THIS WIDTH EXTENDS BEYOND CORPORATE LIMITS

REVISED 4.

TABLE 2

FEDERAL EMERGENCY MANAGEMENT AGENCY

CITY OF PRESTONSBURG, KY
(FLOYD CO.)

FLOODWAY DATA

LEVISA FORK

FLOODING SOURCE		FLOODWAY			BASE FLOOD WATER SURFACE ELEVATION			
CROSS SECTION	DISTANCE[1]	WIDTH (FEET)	SECTION AREA (SQ. FEET)	MEAN VELOCITY (FEET/SEC.)	REGULATORY (FEET NGVD)	WITHOUT FLOODWAY (FEET NGVD)	WITH FLOODWAY (FEET NGVD)	INCREASE (FEET)
MIDDLE CREEK								
A	0.075	87	1386	8.7	635.7	610.3[3]	610.7	0.4
B	0.248	248	4312	2.8	635.7	613.1[3]	613.8	0.7
C	0.400	103	1673	7.2	635.7	613.4[3]	614.0	0.6
D	0.650	572[2]	5330	2.3	635.7	615.1[3]	615.9	0.8
E	0.905	384[2]	3442	3.5	635.7	615.9[3]	616.7	0.8

[1]MILES ABOVE MOUTH
[2]THIS WIDTH EXTENDS BEYOND CORPORATE LIMITS
[3]ELEVATIONS WITHOUT CONSIDERING BACKWATER EFFECT FROM LEVISA FORK

REVISED 4/2/90

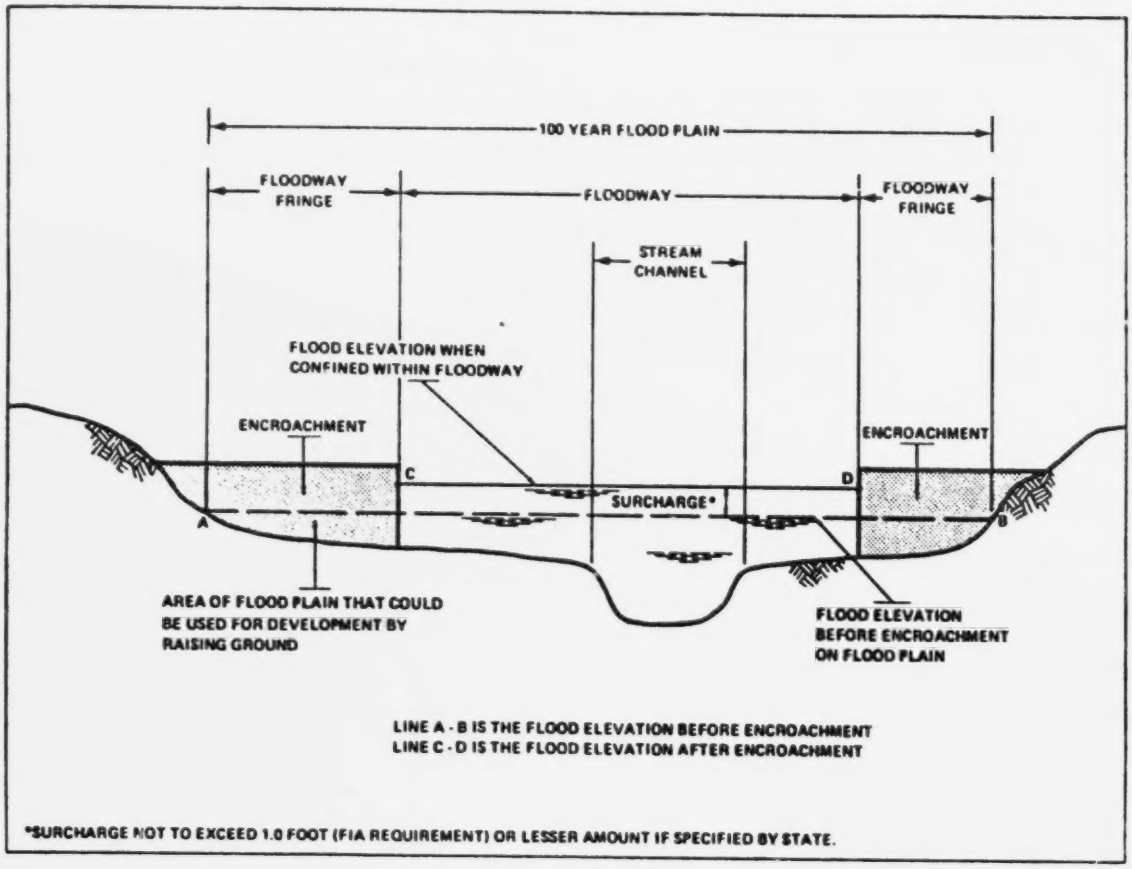
TABLE 2

FEDERAL EMERGENCY MANAGEMENT AGENCY

CITY OF PRESTONSBURG, KY
(FLOYD CO.)

FLOODWAY DATA

MIDDLE CREEK


100 YEAR FLOOD PLAIN
FLOODWAY FRINGE
FLOODWAY
FLOODWAY FRINGE
STREAM CHANNEL
FLOOD ELEVATION WHEN CONFINED WITHIN FLOODWAY
ENCROACHMENT
ENCROACHMENT
C
D
SURCHARGE*
A
B
AREA OF FLOOD PLAIN THAT COULD BE USED FOR DEVELOPMENT BY RAISING GROUND
FLOOD ELEVATION BEFORE ENCROACHMENT ON FLOOD PLAIN
LINE A - B IS THE FLOOD ELEVATION BEFORE ENCROACHMENT
LINE C - D IS THE FLOOD ELEVATION AFTER ENCROACHMENT
*SURCHARGE NOT TO EXCEED 1.0 FOOT (FIA REQUIREMENT) OR LESSER AMOUNT IF SPECIFIED BY STATE.

FLOODWAY SCHEMATIC

Figure 2

5.0 INSURANCE APPLICATION

In order to establish actuarial insurance rates, the FIA has developed a process to transform the data from the engineering study into flood insurance criteria. This process includes the determination of reaches, Flood Hazard Factors (FHFs), and flood insurance zone designations for each significant flooding source affecting the City of Prestonsburg.

5.1 Reach Determinations

Reaches are defined as lengths of watercourses having relatively the same flood hazard, based on the average weighted difference in water-surface elevations between the 10- and 100-year floods. This difference does not have a variation greater than that indicated in the following table for more than 20 percent of the reach.

Average Difference Between 10- and 100-Year Floods	Variation
Less than 2 feet	0.5 foot
2 to 7 feet	1.0 foot
7.1 to 12 feet	2.0 feet
Above 12 feet	3.0 feet

One reach meeting the above criteria was required for Levisa Fork. The location of the reach is shown on the Flood Profiles (Exhibit 1).

5.2 Flood Hazard Factors (FHFs)

The Flood Hazard Factor is used to correlate flood information with insurance rate tables. Correlations between property damages from floods and their assigned FHFs are used to set actuarial insurance premium rate tables based on FHFs from 005 to 200.

The FHF for a reach is the average weighted difference between the 10- and 100-year flood water-surface elevations expressed to the nearest one-half foot, and shown as a three-digit code. For example, if the difference between the water-surface elevations of the 10- and 100-year floods is 0.7 foot, the FHF is 005; if the difference is 1.4 feet, the FHF is 015; if the difference is 5.0 feet, the FHF is 050. When the difference between the 10- and 100-year flood water-surface elevations is greater than 10.0 feet, the accuracy for the FHF is to the nearest foot.

The COE computer program, HEC-2, (Reference 7) which determines the Flood Hazard Factors from the results of the backwater computations was used to determine the appropriate Flood Hazard Factors for this study, which are shown in (Table 3), "Flood Insurance Zone Data."

5.3 Flood Insurance Zones

After the determination of reaches and their respective FHFs, the entire incorporated area of Prestonsburg was divided into zones, each having a specific flood potential or hazard. Each zone was assigned one of the following flood insurance zone designations.

Zone A18: Special Flood Hazard Areas inundated by the 100-year flood, determined by approximate methods; no base flood elevations shown or FHFs determined.

FLOODING SOURCE	PANEL[1]	ELEVATION DIFFERENCE[2] BETWEEN 1.0% (100-YEAR) FLOOD AND			FHF	ZONE	BASE FLOOD ELEVATION[3]
		10% (10 YR.)	2% (50 YR.)	0.2% (500 YR.)			
Levisa Fork Reach 1	0001,0002 0003	-9.1	-3.0	+7.6	090	A18	Varies

[1]FLOOD INSURANCE RATE MAP PANEL
[2]WEIGHTED AVERAGE
[3]ROUNDED TO NEAREST FOOT – SEE MAP

TABLE 3

FEDERAL EMERGENCY MANAGEMENT AGENCY

CITY OF PRESTONSBURG, KY
(FLOYD CO.)

FLOOD INSURANCE ZONE DATA

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LEVISA FORK

Zone B:	Areas between the Special Flood Hazard Area and the limits of the 500-year flood, including areas of the 500-year flood plain that are protected from the 100-year flood by dike, levee, or other water control structure; areas subject to certain types of 100-year shallow flooding where depths are less than 1.0 foot; or areas subject to 100-year flooding from sources with drainage areas less than 1 square mile. Zone B is not subdivided.
Zone C:	Areas of minimal flooding.

Table 3, "Flood Insurance Zone Data," summarizes the flood elevation differences, FHFs, flood insurance zones, and base flood elevation for each flooding source studied in detail in the community.

5.4 Flood Insurance Rate Map Description

The Flood Insurance Rate Map for the City of Prestonsburg is, for insurance purposes, the principal result of the Flood Insurance Study. This map (published separately) contains the official delineation of flood insurance zones and base flood elevation lines. Base flood elevation lines show the locations of the expected whole-foot water-surface elevations of the base (100-year) flood. This map is developed in accordance with the latest flood insurance map preparation guidelines published by the FIA.

6.0 OTHER STUDIES

No other studies are known to be pertinent to this study area and therefore this study is authoritative for insurance purposes.

7.0 LOCATION OF DATA

Survey, hydrologic, hydraulic and other pertinent data used in this study can be obtained by contacting the office of the Federal Insurance Administration, Glenn Woodard, Regional Director, 1371 Peachtree Street, N. E., Atlanta, Georgia 30309.

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8.0 BIBLIOGRAPHY AND REFERENCES

1. Zoning Map, Prestonsburg, Kentucky, prepared by Stephen Mooney, City Planner, June 1975.

2. Industrial Resources; Prestonsburg, Kentucky, prepared by the Kentucky Chamber of Commerce, 1975.

3. Beard, Leo R., "Statistical Methods of Hydrology," January 1962.

4. Water Resources Council Bulletin No. 17, March 1976.

5. U. S. Geological Survey, Surface Water Supply of the United States.

6. U. S. Army Corps of Engineers, Stream Flow Data and Records.

7. U. S. Army Corps of Engineers, Hydrologic Engineering Center (HEC) computer program HEC-2, "Water-Surface Profiles."

8. U. S. Water Resources Council, flood plain Management Guidelines For Implementing E. O. 11988, February 10, 1978.

9. U. S. Geological Survey Quadrangle Maps, 7.5 Minute Series, Prestonsburg, Kentucky, dated 1962, and Lancer, Kentucky, dated 1954.

9.0 REVISIONS DESCRIPTION

This section has been added to provide information regarding significant revisions made since the original Flood Insurance Study was printed. Future revisions may be made that do not result in the republishing of the Flood Insurance Study report. To assure that any user is aware of all revisions, it is advisable to contact the community repository of flood hazard data located at the Prestonsburg City Hall, 31 North Lake Drive.

9.1 First Revision (Revised April 2, 1990)

a. Acknowledgments

The hydrologic and hydraulic analyses for this Revisions Description were performed by the U.S. Army Corps of Engineers (COE), Huntington District. The Federal Emergency Management Agency (FEMA) reviewed and accepted these data for purposes of this revision.

b. Scope

The Flood Insurance Study was revised as a result of revised discharges for Levisa Fork. The base flood elevations, flood boundaries, and floodway were revised for the entire length of Levisa Fork within the City of Prestonsburg. In addition, the format of this Flood Insurance Study was revised to reflect the new FEMA Map Initiative Project format. All information previously shown on the Flood Boundary and Floodway Map was transferred to the Flood Insurance Rate Map and the zone designations were changed according to the new format.

c. Hydrologic and Hydraulic Analyses

The hydrologic analyses were performed by the COE using procedures similar to those described in Section 3.1 of this report. However, additional years of stream gage records (1976-1985) were used, resulting in revised discharges. These discharges are given in Table 4, "Revised Summary of Discharges."

TABLE 4 - REVISED SUMMARY OF DISCHARGES

FLOODING SOURCE AND LOCATION	DRAINAGE AREA (SQ MILES)	PEAK DISCHARGE (CFS) 10-YEAR	50-YEAR	100-YEAR	500-YEAR
LEVISA FORK					
at river mile 53	1721.5	39,300	56,500	66,600	95,000
at USGS gaging station (just upstream of Middle Creek)	1701.0*	37,500	58,000	69,000	102,000

*includes drainage area from Middle Creek.

The HEC-2 step-backwater computer model (Reference 10) used for the previously effective Flood Insurance Study was revised using the new discharges developed by the COE. Roughness coefficients (Manning's "n") range from 0.042 to 0.062 for the main channel and from 0.060 to 0.110 for the overbank areas.

d. Floodways

Floodway computations for Levisa Fork were revised as a result of revised discharges. The floodways were computed on the basis of equal conveyance reduction from each side of the floodplain. The results of these computations were tabulated at selected cross sections for each stream segment for which a floodway was revised and are presented in Table 2, Floodway Data.

e. Insurance Applications

For flood insurance rating purposes, flood insurance zone designations are assigned to a community based on the results of the engineering analyses. These zones are as follows:

Zone A

Zone A is the flood insurance rate zone that corresponds to the 100-year floodplains that are determined in the Flood Insurance Study by approximate methods. Because detailed hydraulic analyses are not performed for such areas, no base flood elevations or depths are shown within this zone.

Zone AE

Zone AE is the flood insurance rate zone that corresponds to the 100-year floodplains that are determined in the Flood Insurance Study by detailed methods. Whole-foot base flood elevations derived from the detailed hydraulic analyses are shown at selected intervals within this zone.

Zone X

Zone X is the flood insurance rate zone that corresponds to areas outside the 100-year floodplain, areas of 100-year flooding where average depths are less than 1 foot, areas of 100-year flooding where the contributing drainage area is less than 1 square mile, and areas protected from the 100-year flood by levees. No base flood elevations or depths are shown within this zone.

The reach determinations, Flood Hazard Factor, and flood insurance zones presented in Sections 5.1, 5.2, and 5.3 of this report and Table 3, "Flood Insurance Zone Data," are no longer applicable.

f. Flood Insurance Rate Map

The Flood Insurance Rate Map is designed for flood insurance and floodplain management applications.

For flood insurance applications, the map designates flood insurance rate zones as described in Section 9.1e and, in the 100-year floodplains that were studied by detailed methods, shows selected whole-foot base flood elevations or average depths. Insurance agents use the zones and base flood elevations in conjunction with information on structures and their content to assign premium rates for flood insurance policies.

For floodplain management applications, the map shows by tints, screens, and symbols the 100- and 500-year floodplains, the floodways, and the locations of selected cross sections used in the hydraulic analyses and floodway computations.

g. Other Studies

The Flood Insurance Study published for Floyd County (Reference 11) is being revised in conjunction with this study and will be in agreement with this revised study.

h. References and Bibliography

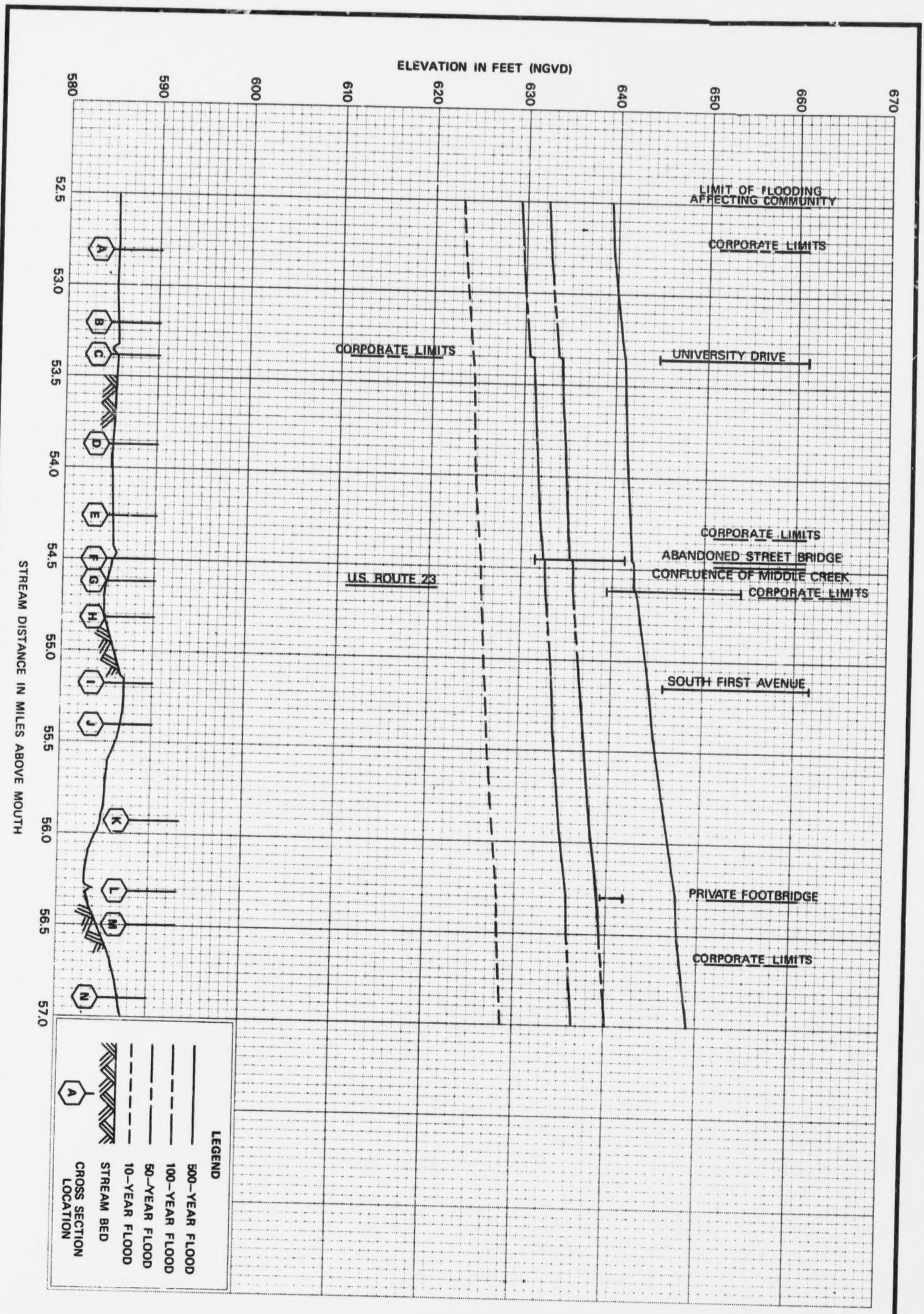
10. U.S. Army Corps of Engineers, Hydrologic Engineering Center, HEC-2 Water Surface Profiles, Computer Program 723-X6-L202A, Davis, California, May 1984.

11. Federal Emergency Management Agency, Flood Insurance Study, Floyd County, Unincorporated Areas, Kentucky, March 1984, revision in progress.

ELEVATION REFERENCE MARKS

REFERENCE MARK	FLOOD INSURANCE RATE MAP PANEL	ELEVATION (FEET NGVD)	DESCRIPTION OF LOCATION
1*	0001	629.569	standard disc stamped "E 86 1935" set in top of south abutment of abandoned railroad bridge 6.5 feet below level of track
2	0002	636.918	standard disc stamped "G 86 1935" in concrete CSX railroad overpass over State Highway 114, in top of east end of north abutment.
3	0002	642.262	standard disc stamped "J 86 1935" in concrete pier 0.8 mile south along CSX railroad from station at Prestonsburg, at highway bridge over tracks, at first set of piers east of track, in south face of south pier, 10 feet east of east rail, 2.5 feet above level of track
4	0003	634.303	standard disc stamped "K 86 1935" in concrete bridge abutment of CSX railroad over Bull Creek in top of southeast end of northeast bridge seat
5	0003	635.606	standard disc stamped "S 171 1952" in top of southwest headwall of 36-inch culvert below CSX railroad

*outside the corporate limits



FEDERAL EMERGENCY MANAGEMENT AGENCY

CITY OF PRESTONSBURG, KY
(FLOYD CO.)

FLOOD PROFILES

LEVISA FORK

01P

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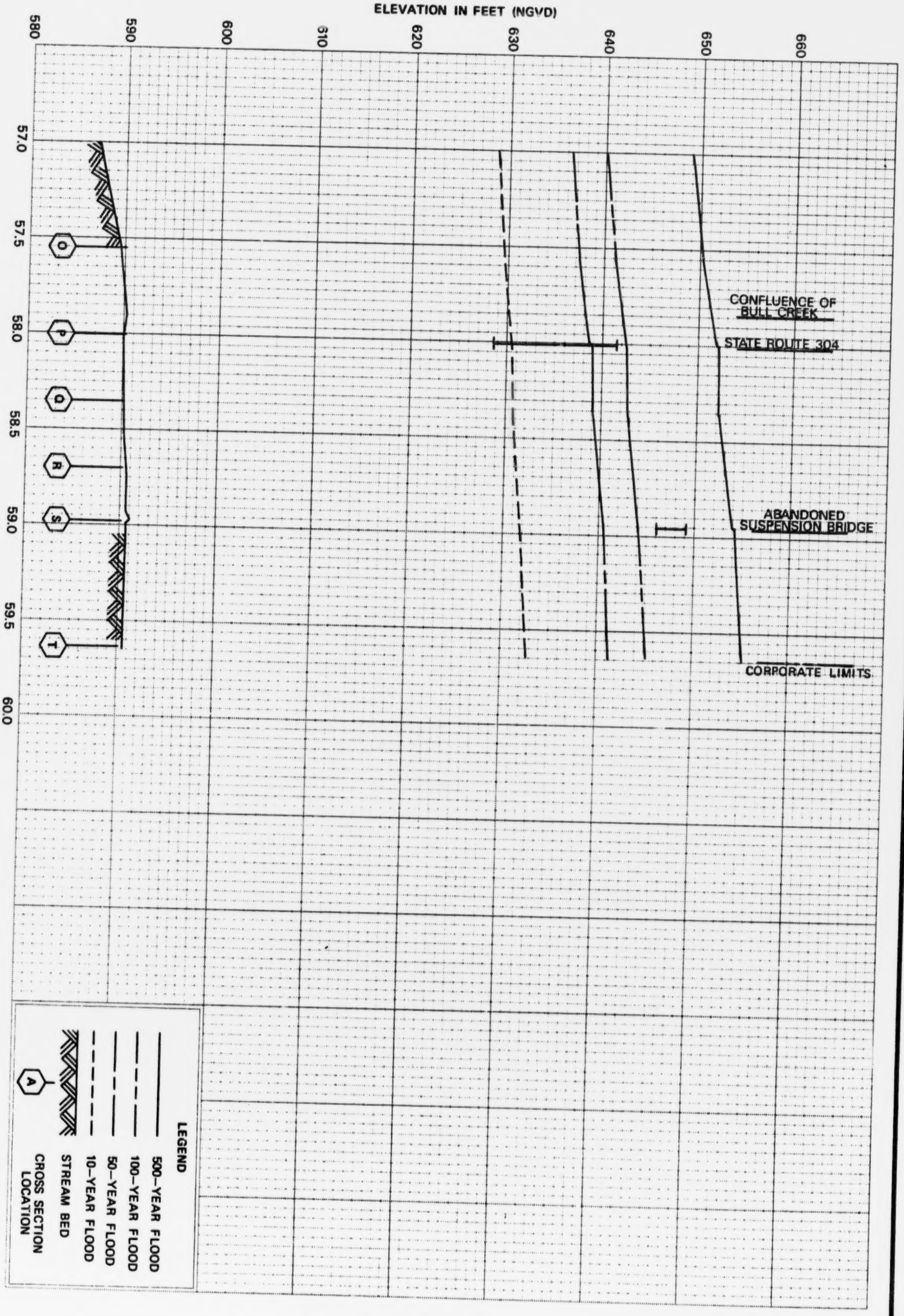

FEDERAL EMERGENCY MANAGEMENT AGENCY

CITY OF PRESTONSBURG, KY

(FLOYD CO.)

FLOOD PROFILES

LEVISA FORK

02P

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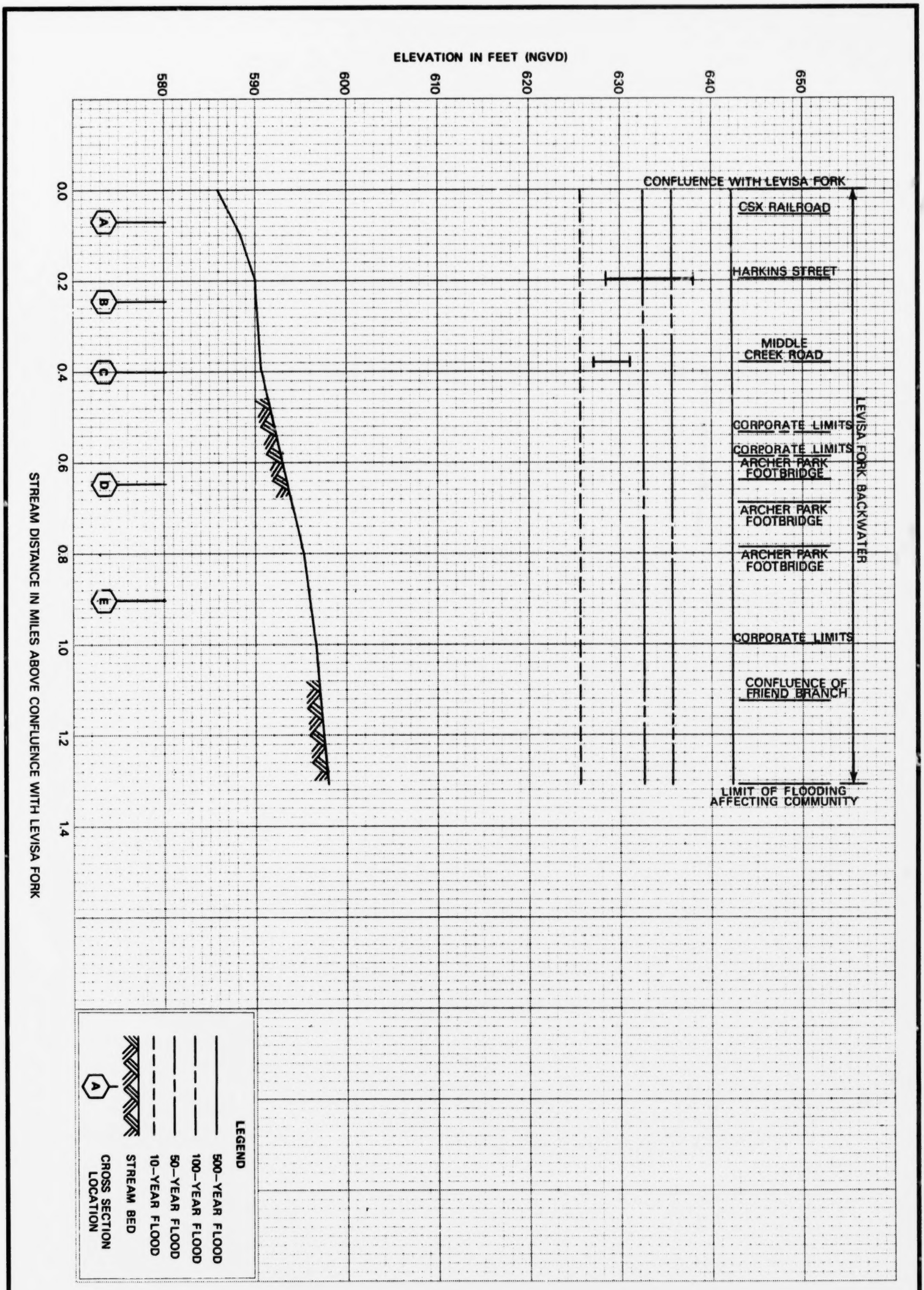

03P	FEDERAL EMERGENCY MANAGEMENT AGENCY **CITY OF PRESTONSBURG, KY** (FLOYD CO.)	**FLOOD PROFILES** **MIDDLE CREEK**